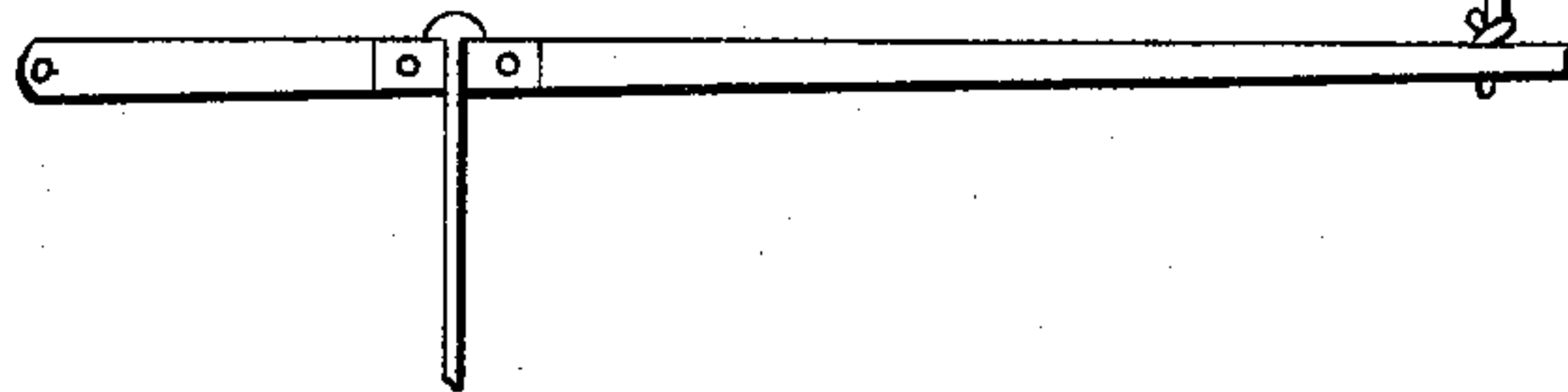
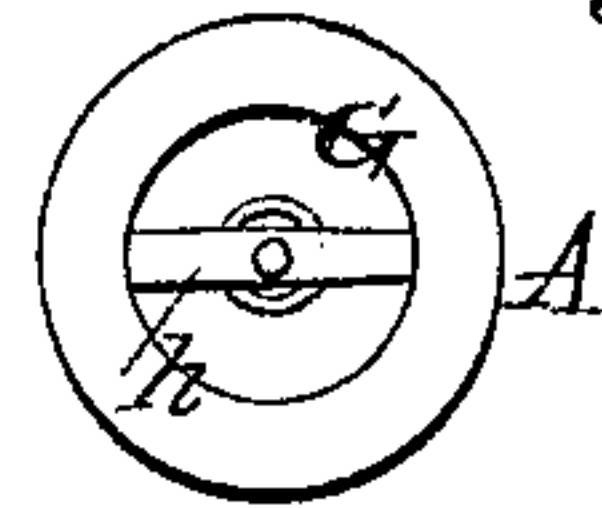
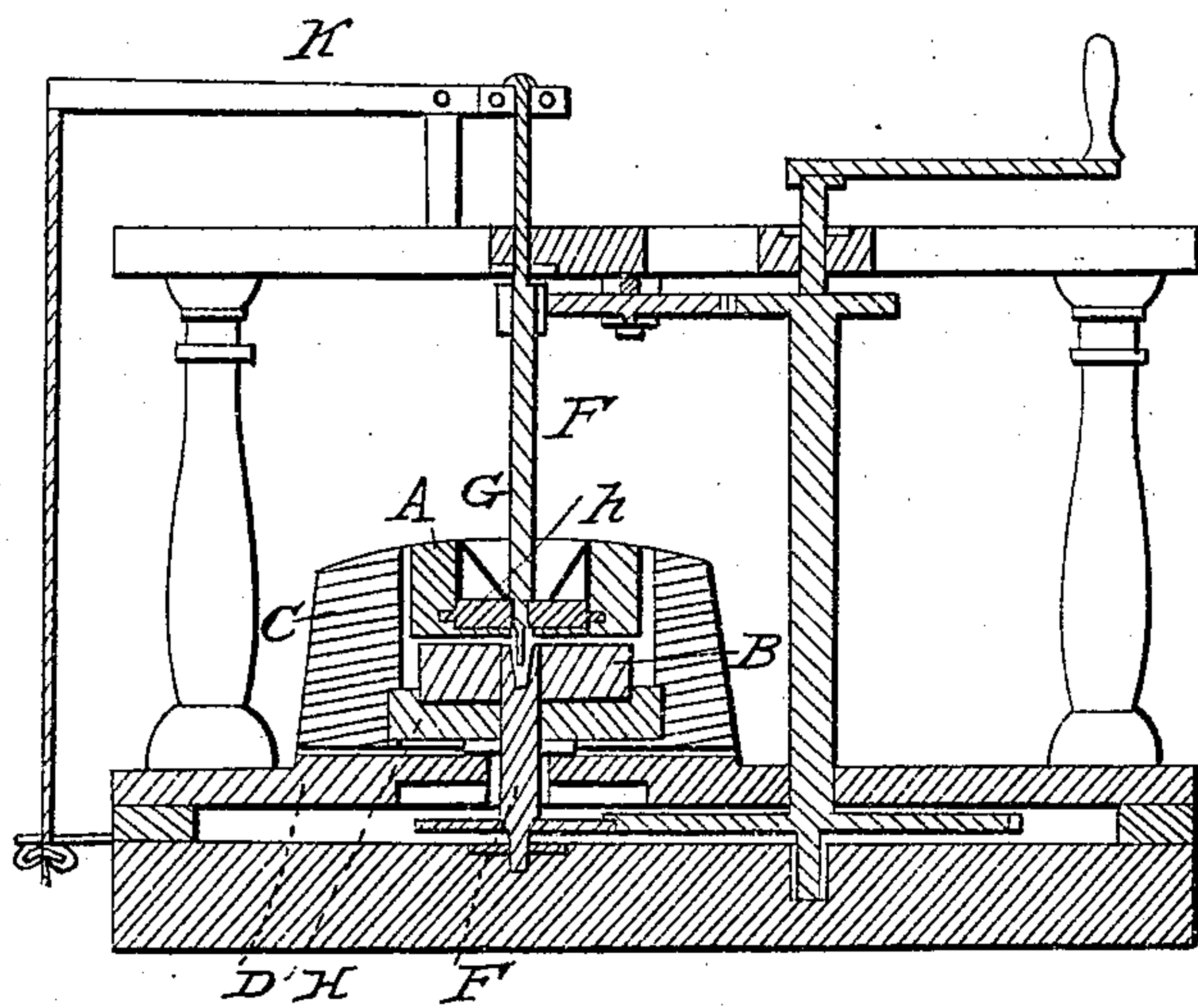
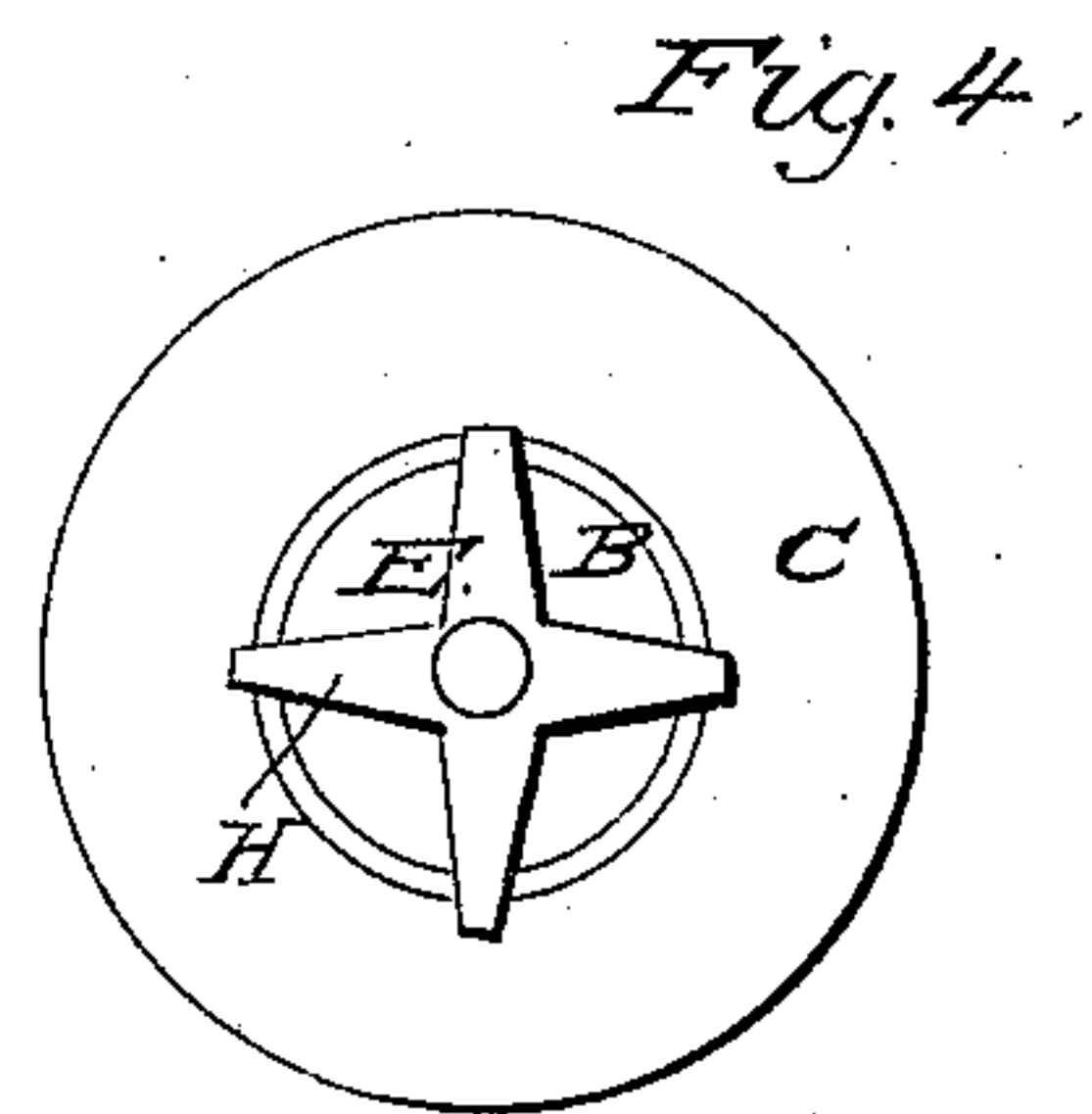
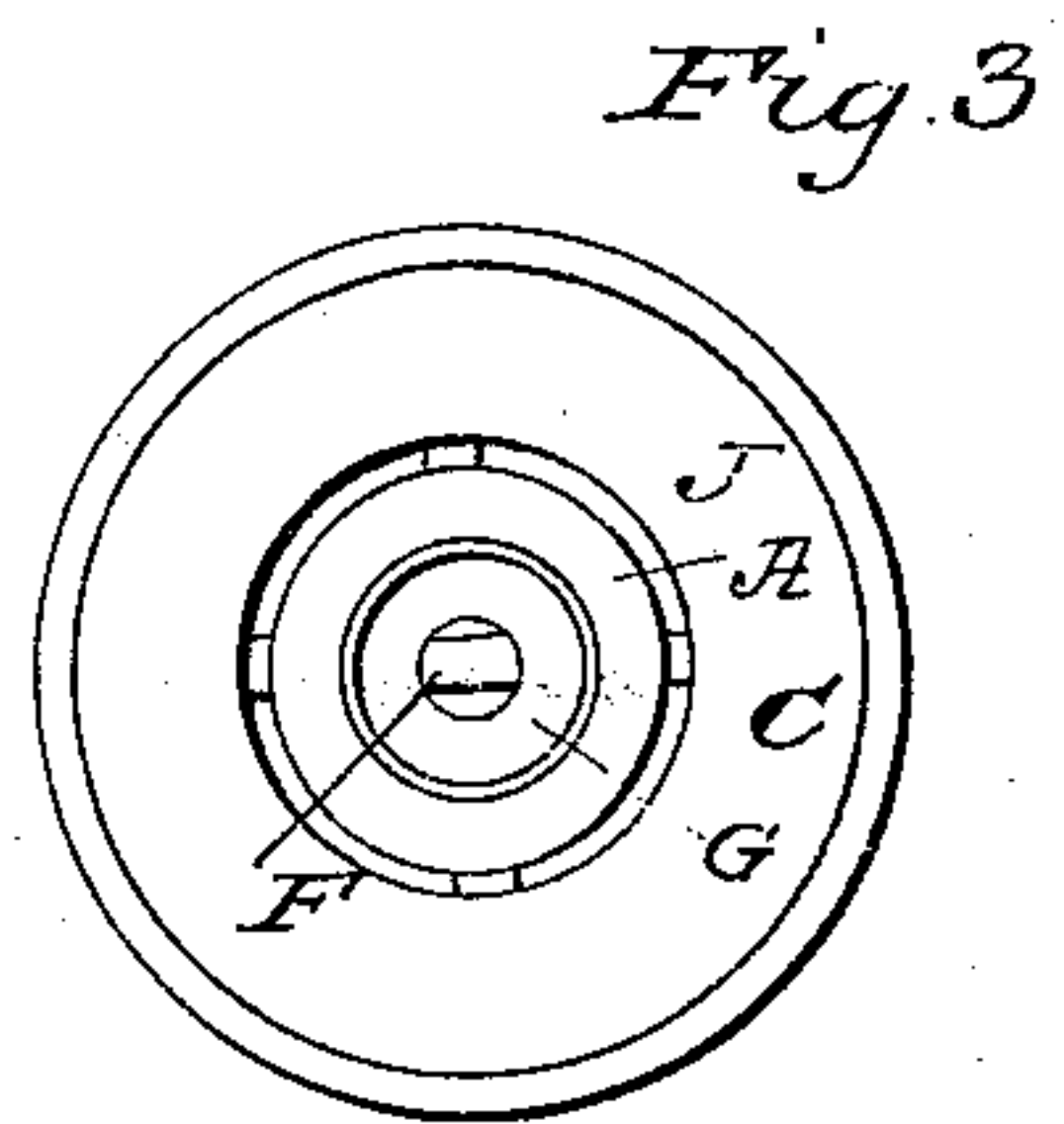
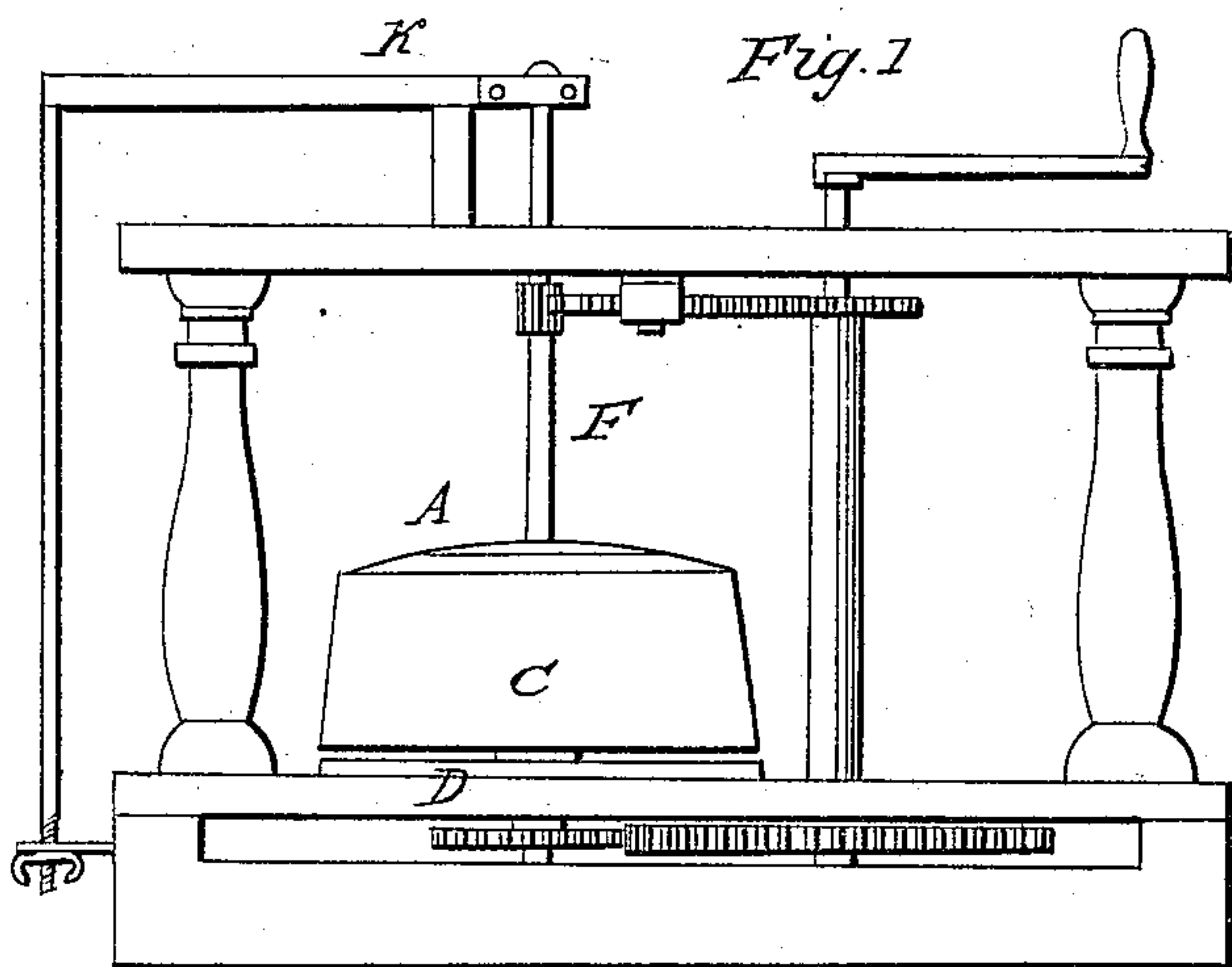


E. GRAY.
Grist Mill.

No. 1,523.

Patented March 25, 1840.



UNITED STATES PATENT OFFICE.

EDWARD GRAY, OF ULYSSES, NEW YORK.

GRIST-MILL.

Specification of Letters Patent No. 1,523, dated March 25, 1840.

To all whom it may concern:

Be it known that I, EDWARD GRAY, of Ulysses, Tompkins county, State of New York, have invented a new and useful Improvement in Grist-Mills, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

In the common grist mill there exists certain defects which it has been my endeavor to remove and which I think I have accomplished. The defects of the greatest consequence are, 1st, the slowness of the grinding performed around the eye of the common stones, owing to the slow movement of the runner at this part of it and the consequent insufficient supply of prepared grain for flouring, or being ground into flour, which is accomplished by the surfaces of the stones near the circumferences thereof where the movement is quicker; 2nd, the introduction of too much cool air between the stones through the eye of the runner.

Figure 1 is a side elevation of the stones and gearing. Fig. 2 is a vertical section through the center of the mill. Fig. 3 is a top view of the stones. Fig. 4 is a view of the under side of the large runner. Fig. 5 is a view of the under side of the small runner.

Similar letters refer to similar parts in the figures.

My improvement consists in placing a pair of small stones A and B in the eye of the common runner C for the purpose of preparing the grain for being ground into flour by the common runner C and bed D, the inner stones A and B running in contrary directions to each other and the large and small runners also moving in contrary directions to each other. The inner and smaller bed stone is fixed to and turns with the large runner; it rests upon the top of the driver H secured permanently in the runner (there being no balance wire or bail used) and is prevented from turning around horizontally on said driver by making channels on the underside of the small bed stone which admit the arms of the driver snugly therein, which driver is secured to and turns

with the main spindle E. The eye of the large runner is increased in diameter for the admission of said small stones. The small bed stone is made of less diameter than the eye in order to leave a small space around it for the prepared grain to pass down between the circumference of the eye of the large runner and the small bed stone. In the upper end of the main spindle, which terminates in the center of the small bed stone, there is formed an oil cup or cavity for the foot of the small spindle F of the small runner to turn in without touching the bottom thereof to keep it vertical. In the eye of the small runner is placed a funnel G for the purpose of excluding the air as much as possible from the stones, through which funnel the grain is fed to the stones.

The small spindle is secured to the small runner by passing the lower end of said spindle through the driver h, of the small stone and fastening the same by a bur or in any convenient mode, and said small runner is suspended by the neck or upper end of the small spindle to the lighter staff K by which it is raised or lowered to adjust the small stone, the neck of said small spindle turning in a divided box fastened to the lighter staff. The stones are turned by any of the ordinary modes of gearing; that which is represented in the drawing will do very well, but bands and pulleys will also answer for turning the small runner instead of the cogged gearing here represented. The small spindle in this mill takes the place of the damsel in mills of the usual construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

Placing a pair of small stones in the eye of the runner turning in opposite directions to each other for grinding quicker near the center and thus preparing the grain for the large stones which are thereby enabled to grind it into flour more easily and expeditiously than without such previous preparation as herein described.

EDWARD GRAY.

Witnesses:

M. VAN DEUSEN,
DAVID DUMONT.